

**Approaches to changing behaviours: Designing an intervention to reduce sedentary behaviour in the workplace using behaviour change theory.**

Coldrey, Matt

*Publication date:*  
2017

[Find this output at Hartpury Pure](#)

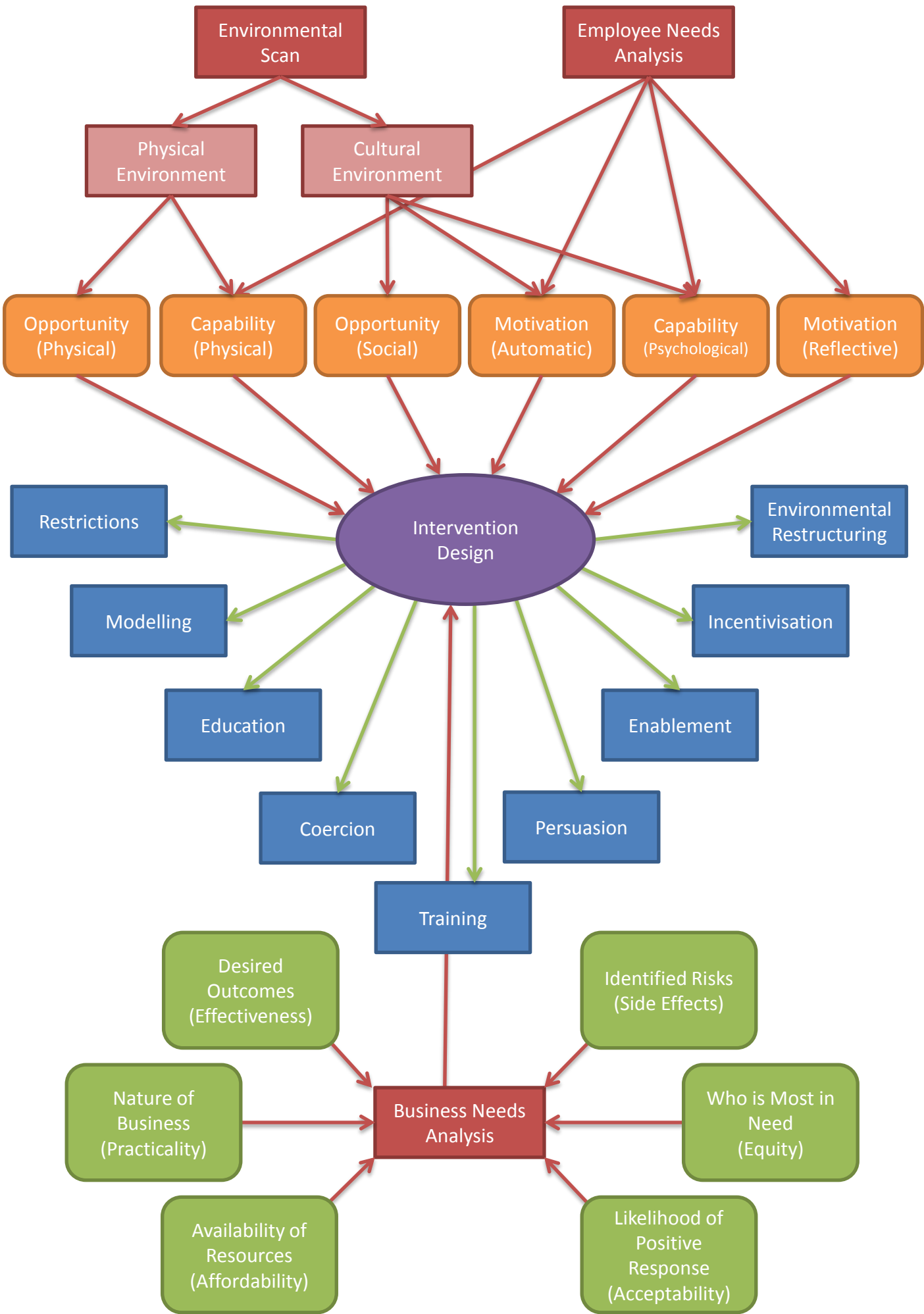
*Citation for published version (APA):*

Coldrey, M. (2017). *Approaches to changing behaviours: Designing an intervention to reduce sedentary behaviour in the workplace using behaviour change theory..* UK Sport Development Network Conference 2017, Plymouth, United Kingdom.

# Workplace Physical Activity: A Behaviour Change Approach

The intervention was designed using a behaviour change approach, drawing upon the COM-B (Capability, Opportunity and Motivation equals' behaviour) model. Workplace needs were analysed, focusing on the three areas of business need, workplace environment and employee need. These needs were then analysed, and using a policy approach, workplaces designed long-term action plans to shift the sedentary behaviours identified via the needs analysis, through a range of bespoke measures.

The approach targeted the employees' capability, opportunity and motivation, this approach sought to offer a holistic approach to shifting behaviours. Capability was targeted through the education of employees, showing them that they could increase their physical activity levels at work by doing simple and achievable activities that were both modelled. Activities were also drawn from the participants themselves during the training. By providing staff with simple and achievable activities to do and by providing them with the option stand up whilst they worked by installing sit-down/stand-up desks, staff were given the opportunity to increase their physical activity levels, whilst not taking up their valuable time. The employees' motivation was targeted by educating them on the impact on their work performance, physical health, and mental wellbeing.



Business Needs	
<div>Desired Outcomes</div> <ul style="list-style-type: none"><li>Reduced absence</li><li>Increased productivity</li><li>Reducing staff turnover</li><li>Team cohesion and morale</li></ul>	
<div>Nature of Business</div> <ul style="list-style-type: none"><li>Sector</li><li>Single/multi-site</li><li>Urban/rural site</li><li>Working hours</li></ul>	
<div>Availability of Resource</div> <ul style="list-style-type: none"><li>Budget for project</li><li>Staffing availability</li><li>Marketing</li><li>Digital space (website)</li></ul>	
<div>Likelihood of Positive Response</div> <ul style="list-style-type: none"><li>Relevant to the business aims</li></ul>	
<div>Who is Most at Need</div> <ul style="list-style-type: none"><li>Specific target groups</li><li>Demographic of staff</li></ul>	
<div>Potential Risks</div>	

Environmental Scan	
<div>Physical Opportunities</div> <ul style="list-style-type: none"><li>• Locality of staff</li><li>• Onsite facilities</li><li>• Local facilities</li><li>• Layout of workplace</li><li>• Cycle parking</li><li>• Car parking</li></ul>	
<div>Physical Capability</div> <ul style="list-style-type: none"><li>• Onsite showering/ changing facilities</li><li>• Stairs/lift access</li><li>• Cycle-to-work scheme</li><li>• Business mileage for cycling</li></ul>	
<div>Social Opportunities</div> <ul style="list-style-type: none"><li>• Current initiatives</li><li>• Social structures (i.e. groups)</li><li>• Previous successes</li><li>• Motivation of staff</li></ul>	
<div>Workplace Culture</div> <ul style="list-style-type: none"><li>• Sedentary or active culture</li><li>• Is wellbeing a focus?</li><li>• Health or reward focused? (Unhealthy snacks etc.)</li></ul>	

1. Does your employer have, or are you aware of, a physical activity policy?

Yes

No

2. Does your employer supply information on the benefits of physical activity?

Yes

No

Don't know

3. Do you take your legal entitlement of breaks?

Always

Often

Rarely

Never

I do not know what my legal entitlement is

4. Are you encouraged to take regular breaks?

Always

Often

Rarely

Never

5. How often is physical activity actively encouraged within your workplace?

Always

Often

Rarely

Never

6. How often are physical activity opportunities from the local area actively promoted to you?

Always

Often

Rarely

Never

7. Does your employer actively promote active ways of getting to and from work, and travelling between meetings?

Yes

No

Sometimes

Don't know

8. Are there regular opportunities to be physically active through your employer?

Yes

No

Sometimes

Don't know

9. What stops you being physically active/what are the barriers?

10. What additional support would you like your employer to provide to help you to become more physically active?

A pool of bikes

Waterproof gear/umbrella

Info on local walking and cycling routes

Showering facilities

Free/reduced gym memberships/leisure passes

Active meetings

Cycle-to-work scheme

Business mileage for cycling

Onsite physical activity sessions

Offsite parking with walking/cycle route to work

Information on opportunities outside of work

Other (please specify)

# Restrictions

Look to place restrictions on how sedentary employees are allowed to be. Take care not to restrict employees against their wishes as this can lead to disengagement, demotivation and/or resentment.

## **Examples:**

- Moving essential facilities, such as toilets and kitchens, further away from working areas.
- Create a rule that means the lifts can only be used when necessary (i.e. if an employee is injured or disabled, or has to transport heavy or cumbersome items).
- Place a limit onsite parking to those who need to use spaces close to the worksite.
- Place a limit the length of meetings with no breaks.
- Place a limit on the amount of time employees are allowed to sit down continuously.



# Modelling

Give positive role models exposure to encourage employees to emulate positive behaviours. Ensure that these role models are relatable and realistic for a range of employees (i.e. a super keen marathon runner will not interest individuals who have not been for a run in years).

## **Examples:**

- Encourage staff to blog about their physical activity journey, or share blogs from individuals who are relatable to employees.
- Place a sitting agenda item on team meetings for staff to share what physical activity they are been doing. Enable staff to ask questions and discuss this (be careful to get a mixture of already actives, sporadically active and inactive employees).
- Create a bring-a-buddy scheme, where employees share what physical activity they are doing, and invite their colleagues along to try. This can be done as a team-building activity, but ensure that you do not force employees to take part in activities they do not want to.
- Invite inspirational speakers to talk to staff about their journey from inactive, to physically active.

# Education

Enable employees to learn about physical activity and the way in which it can positively impact upon their physical and mental wellbeing.

## **Examples:**

- Offer staff development/education that looks at educating staff on the benefits of being physically active on the health and wellbeing, as well as their work performance and productivity, and looks at how they can increase their physical activity levels.
- Provide digital resources that inform employees via email, intranet sites and social media.
- Display posters around the worksite at key areas such as by the kettle, next to lift doors, and on the back of toilet doors that encourage employees to make informed decisions about their own health and wellbeing.
- Talk about the benefits of physical activity during team meetings, and ask employees to talk research and talk about the benefits.
- Display screen savers that remind and educate employees on the benefits of physical activity, and how they can integrate it into their day.

# Coercion

Using punishments to control the behaviours of employees, but be careful to ensure that coercion is only used if employees have suggested a need and/or want to be coerced into shifting their behaviours. Top-down coercion can lead to disengagement, demotivation and resentment.

## **Examples:**

- Punish employees if meetings overrun by not allowing them to book the meeting room again for a week.
- Punish employees who sit for over an hour without moving by not allowing them to use the staff car park for a day.
- Ban employees from using toilets that are on the same floor as their workstation.

# Training

Help employees to develop the key competencies that they need to be physically active.

## **Examples:**

- Offer cycle proficiency training.
- Provide training on suitable office based activities and stretches.
- Use motivational interviewing to motivate employees to become more physically active as a part of your appraisal scheme.

# Persuasion

Regularly communicate with staff about the positive impact that physical activity can have, and the negative impact that sedentary behaviour can have.

## **Examples:**

- Remind employees of the need to be physically active throughout the day if you notice sedentary behaviour.
- Integrate physical activity advice into your return-to-work process.
- Identify issues that employees face that physical activity can help to target (i.e. productivity, mental wellbeing, drowsiness, high levels of minor and mental illness) and target these by reminding employees that physical activity can help to address these issues.

# Enablement

Make it easy for employees to make positive decisions about their physical activity levels. Ensure that staff know that you encourage them to increase their physical activity levels.

## **Examples:**

- Offer flexible working to allow employees to exercise before, and after work, and during lunch breaks.
- Offer a reduced or free gym membership for employees.
- Communicate local walking and cycling routes to staff to help them to find routes to actively travel to work.

# Incentivisation

Create a reward scheme for employees who are already active, or who increase their physical activity levels.

## **Examples:**

- Provide employees with a fitness tracker at a reduced price based on the amount of steps they take (i.e. the more steps they take, the cheaper the payment for the month is).
- Offer employees cycle/walk-to-work mileage to encourage them to cycle/walk all or part of their journey to and from work.
- Offer employees business mileage for when the ride or walk to meetings.

# Environmental Restructuring

Create a physical environment that enables employees to be physically active, and removes the physical barrier to being physically active.

## **Examples:**

- Build and onsite gym, or provide a space for employees to be physically active.
- Map out local walking routes, and create a local mile that staff can walk before and/or after work, or during lunch breaks.
- Ensure staff have access to stairs.
- Provide showering facilities onsite for staff who cycle or run to work, or who want to be active during their lunch breaks.
- Provide secure cycle parking.
- Provide employees with a table tennis table, or pop up table tennis set for use during breaks.



# Collateral Design

The collateral for behaviour change initiatives follow social nudge theory; a theory that has been widely used by governments, public bodies and businesses to influence and persuade the public. The collateral follows the principles of:

- Educating the reader on why physical activity is important for them individually
- Creating a status quo that mirrors the desired behaviour (hinting that being physically active should be the norm)
- Increasing the availability of information (subtly raising its intrinsic importance to individuals)
- Providing the reader for opportunities that are realistic to them

## What can you do?



Take the stairs



Park away from the office



Stand and stretch



Use the furthest toilet



Have a walk



Meet face-to-face

## Feeling stressed?



Physical activity releases stress busting chemicals in your brain!



### **Serotonin (prevention)**

Relives symptoms of loneliness and depression, maintaining a feeling of worth and belonging

### **Dopamine (reinforcement)**

Reinforces pleasure, helping you to enjoy what you are doing



### **Oxytocin (relationship building)**

Supports intimacy, trust and healthy relationships, helping you to work better as a team



### **Endorphins (curing)**

Alleviates stress and symptoms of depression

## Sore lower back?

It might be caused by sitting down too much...

Your hip-flexors tighten and shorten, rotating your hips forward and contributing to a painful lower back



You unevenly wear your back joints, creating long-term back issues

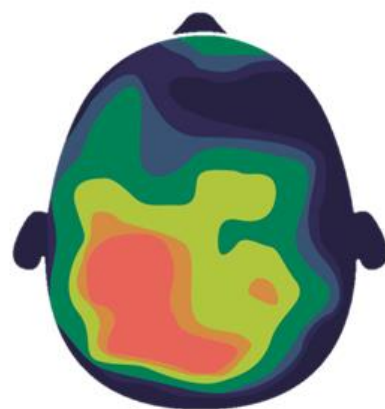
Break up sitting time by standing to keep you muscles supple and your back healthy

## Feeling unproductive?

After sitting down



After a 20 minute walk



Reactivate your brain with a bit of physical activity!

## Feeling Drowsy?



Get moving to increase your blood sugar, blood flow, and to wake up your body and mind!

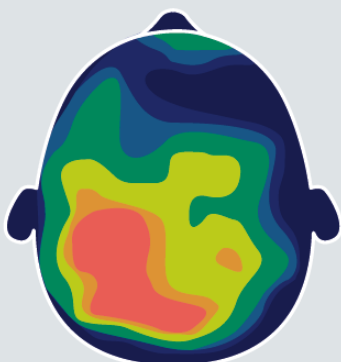


# WHY IS A BRIGHTER BRAIN A BETTER BRAIN?

## BRAIN BEFORE A 20 MINUTE WALK



## BRAIN AFTER A 20 MINUTE WALK



Too much sitting is not good for your brain. By increasing your physical activity, you increase your brain activity. Here are a few things you can do to help your grey matter and boost your ideas.

- ✓ Go for a walk during breaks
- ✓ Stand up for meetings
- ✓ Get off a stop or two early
- ✓ Park off-site, or further away
- ✓ Walk, ride or run to work
- ✓ Use the stairs
- ✓ Stand up frequently
- ✓ Go to the loo further away

Illustration based on research/scan by Dr Chuck Hillman, University of Illinois



# YOUR STEPS TO INCREASED WELLBEING ARE THIS WAY

Here are 5 of many reasons why you should use the stairs to climb your way to better health and well-being:





# JOIN YOUR COLLEAGUES AND BECOME WORK FIT

## Activity 1

### TAKE THE STAIRS



Stair climbing releases endorphins. Your short trip via the stairs will leave you with a glow and feeling of well-being.

Good for alleviating stress

## Activity 3

### STAND AND STRETCH



Why not relieve some office tension by stretching? It leaves you feeling energised, alert and ready to face the day ahead.

Good for increasing flexibility

## Activity 5

### PARK FURTHER AWAY



People who walk six miles or more per week are more likely to avoid brain shrinkage and preserve memory as the years pass.

Good for waking up before work

## Activity 2

### TAKE A LUNCHTIME STROLL



Walking has lots of benefits. It strengthens your heart, lowers your disease risk and helps you to lose weight.

Good for increasing blood flow

## Activity 4

### FACE-TO-FACE RATHER THAN EMAIL



Go to see your colleague rather than email them. Nothing gets lost in translation and go get some exercise. It's a win win.

Good for reducing wear on back joints

## Activity 6

### GO TO THE FURTHEST LOO



Walking increases vitamin D production, which promotes bone health and strengthens our immune systems.

Good for balanced blood sugar

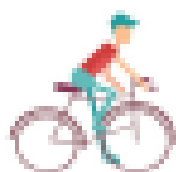


# PHYSICAL ACTIVITY IN THE WORKPLACE

The impact of physical activity on your body and brain

*Physical activity can have a massive impact on your body and brain...*

*It can boost your brain function and immune system, reduce the risk of chronic health conditions (such as cancer, hypertension and diabetes), improve your mood, and energise you.*



Contact us today.

Call us on:  
01628 303 108

Email:  
[info@activegloucestershire.org](mailto:info@activegloucestershire.org)

Visit:  
[www.activegloucestershire.org](http://www.activegloucestershire.org)

Head office address:  
City Works, Jubed Street, Gloucester GL1 2DP



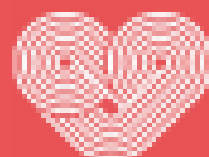
[twitter.com/activeglou](https://twitter.com/activeglou)



[facebook.com/activeglou](https://facebook.com/activeglou)



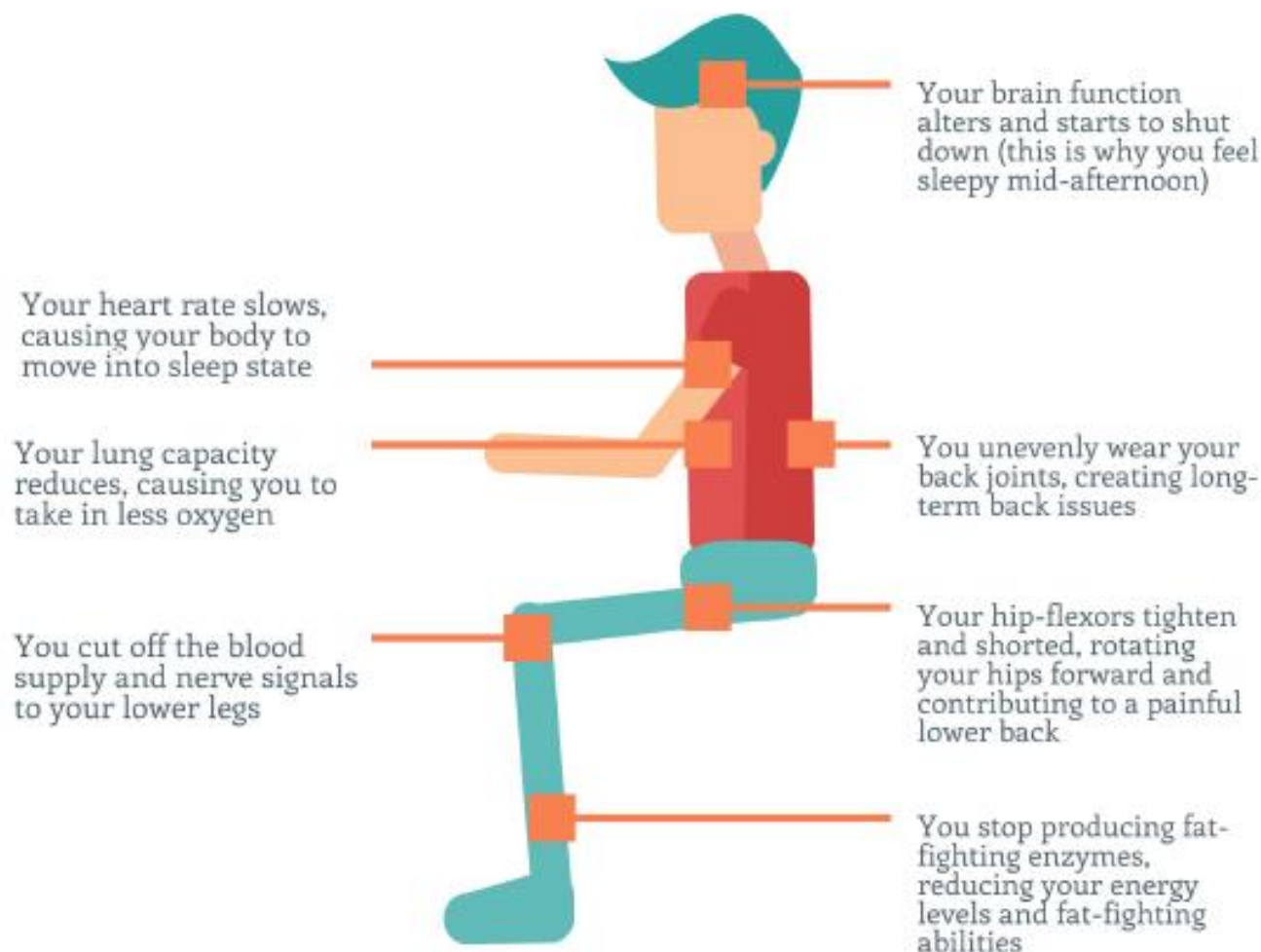
[linkedin.com/activeglou](https://linkedin.com/company/activeglou)





# 01 YOUR BODY WHEN YOU SIT FOR TOO LONG

When you sit down for too long, a few things happen to your body...



Contact us today..

Call us on:  
01452 303 528

Email:  
[info@activegloucestershire.org](mailto:info@activegloucestershire.org)

Visit:  
[www.activegloucestershire.org](http://www.activegloucestershire.org)

Head office address:  
City Works, Alfred Street, Gloucester GL1 4DF

 [twitter.com/activeveglos](https://twitter.com/activeveglos)

 [facebook.com/activeveglos](https://facebook.com/activeveglos)

 [linkedin.com/activeveglos](https://linkedin.com/company/activeveglos)



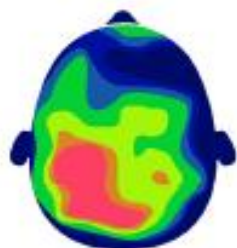


## 02 YOUR BRAIN WHEN YOU DON'T MOVE



Inactive

Sitting at a desk for hours on end decreases mental acuity, not only because of reduced blood flow to the brain but for other biochemical reasons as well. Physical exercise induces the body to produce an array of chemicals that the brain loves, including endorphins, serotonin, dopamine, epinephrine, and norepinephrine, as well as two recently discovered compounds, brain-derived neurotrophic factor (BDNF) and nerve growth factor (NGF).



After 20mins of walking

Both BDNF and NGF promote cell health and development in the brain, stave off the ravages of aging and stress, and keep the brain in tip-top condition. Nothing stimulates the production of BDNF and NGF as robustly as physical exercise. You will more than compensate for the time you invest on the treadmill with improved productivity and efficiency

## 03 THE FEEL-GOOD CHEMICALS



**Serotonin (prevention)**  
Causes loneliness and depression when absent; helping you to maintain a feeling of worth and belonging



**Dopamine (reinforcement)**  
Reinforces pleasure; helping you to enjoy what you are doing



**Oxytocin (relationship building)**  
Supports intimacy, trust and healthy relationships; helping you to work better as a team, and deal with minor irritations



**Endorphins (curing)**  
Alleviates stress and depression; helping you to make better decisions and be more productive

Contact us today...

Call us on:  
01452 303 528


Email:  
[info@activegloucestershire.org](mailto:info@activegloucestershire.org)

Visit:  
[www.activegloucestershire.org](http://www.activegloucestershire.org)

Head office address:  
City Works, Alfred Street, Gloucester GL1 4DF

 [twitter.com/activevglos](https://twitter.com/activevglos)

 [facebook.com/activevglos](https://facebook.com/activevglos)

 [linkedin.com/activevglos](https://linkedin.com/activevglos)



# Staff Education

Active  
Gloucestershire

## Physically activity in the workplace

The impact on your body



### The benefits of physical activity?

- Boosting productivity and brain function
- Reduced risk of chronic diseases
- Boosting the immune system
- Reduces risk of injuries and falls
- Burning calories
- Improved mood
- Energising
- Relaxing



Active  
Gloucestershire

### What happens to the body when to sit down?

- Reduces blood flow
- Numbness: cuts off nerve signals and blood flow
- The enzymes that break down fats stop being produced
- Reduces lung capacity
- Uneven wear on back joints
- Reduced flexibility of muscles
- Brain activity slows and sleepiness takes hold

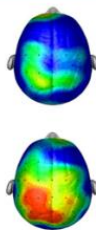
Active  
Gloucestershire

### What happens to the body when to sit down?



Active  
Gloucestershire

### The brain and physical activity



**Sitting for a long period:**

- Chemical imbalance
- Reduced blood flow
- Low blood sugar
- Preparing for sleep
- Negative influence on mood

**After a 20 min walk:**

- Chemical balance
- Increased blood flow
- Balanced blood sugar
- Increased brain activity
- Positive influence on mood

Active  
Gloucestershire



### Creating a chemical balance



Active  
Gloucestershire

#### The feel-good chemicals:

- Endorphins (curing)
  - Alleviates stress and depression
- Serotonin (prevention)
  - Causes loneliness and depression when absent
- Oxytocin (relationship building)
  - Supports intimacy, trust and healthy relationships
- Dopamine (reinforcement)
  - Reinforces pleasure

### Healing the stressed out brain

#### The healing chemicals:

- Brain-derived neurotrophic factor (BDNF)
- Nerve growth factor (NGF)
  - Both promote cell health and development
  - Helps the brain recover from stress and ageing



Active  
Gloucestershire

### What can you do?

- Move away from the stimuli that have caused the overload
- Break up sitting time with standing (even for 1 min stints)
- Do a lap of the office when going to the loo or to get a cuppa
- Stretching increases flexibility and blood flow
- Simple (and subtle) exercises (e.g. calf raises)



Active  
Gloucestershire

### Questions?



The staff training follows a similar design, assessing the initial understanding of the audience in regard to the benefits of physical activity, and their motivations to be physically active. It then goes on to inform and educate based on the level of their understanding, challenging any preconceptions. The final step is to ask the audience to come up with ideas on how they can increase their physical activity levels. It is important to note that the audience should be encouraged to suggest ideas that are realistic and achievable to them based on their capability, opportunities and motivations.